

Installation

2

This chapter describes the installation of cables required to support applications for the Routermate 56K/64K, including terminal, SNMP, Telnet, and dial-in management.

See Chapter 3, *Terminal Operation* for terminal screens and descriptions of the options and parameters.

Unpacking

Upon arrival of the equipment, inspect the condition of the received cartons and compare all items to the packing list attached to the carton.

The following items are included with the unit:

- NI cable; 8-position modular
- DDD cable; 6-position modular (modem models)
- wall-mount transformer
- Manual (918-6268)

Obtain the console and SNMP cables from your terminal and router vendor. See [Installation Checklist](#) on [page 2-2](#).

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Note

Notify both Osicom Communications' Customer Service Department (1-800-359-2273) and the transportation carrier immediately if there are any damages or shortages.

Save the cartons and inserts in case the unit must be shipped at a later date.

Installation Checklist

1. Prepare the site, including provision of a grounded power outlet.
2. Verify that common carrier or customer-supplied line is installed.
3. Obtain the terminal and SNMP cables from your terminal vendor and router (or terminal server) supplier.
 - The terminal cable should be a terminal-to-async modem (DCE) cable type.
 - For SNMP or Telnet management, the cabling depends on the interface of the connected device. See *SNMP/Telnet Management* on [page 2-8](#) for cabling information.

Interface and cable pin connections are in Appendix A. Cable ordering information is in Appendix B.

4. Connect the PC or serial terminal to the **CONSOLE** interface. See *Terminal Management* on [page 2-7](#).
5. Use the management screens to configure the NI, SNMP, Modem, and V.35 interfaces.

See the following sections in Chapter 3:

- NI and DTE interface configuration: see *Configuration Menu* on [page 3-16](#).
 - SNMP interface configuration: see *Management Menu* on [page 3-29](#).
 - Modem interface configuration: see *Dial-In Management Options* on [page 3-23](#).
6. For models with the integral V.32 modem, DDD cable 115-0414-001 comes with the unit. Connect the modem and any auxiliary devices as described in *Dial-In Management* on [page 2-10](#).

LED Indicators

Eight LEDs on the front panel indicate DTE interface control signals, data, and test status.

DSR (Data Set Ready) Green LED lights when the Data Set Ready lead from the CSU/DSU is ON.

RTS (Request To Send) Green LED lights when the Request-to-Send lead from the DTE is ON; that is, the DTE wishes to transmit data.

CTS (Clear To Send) Green LED lights when the Clear-to-Send lead from the CSU/DSU is ON; the DTE may begin transmitting data.

DCD (Data Carrier Detect) Green LED lights when digital data signals are being received.

TXD (Transmit Data) Green LED lights when data is being sent from the DTE to the Routermate 56/64.

RXD (Receive Data) Green LED lights when data received from the remote unit is sent to the DTE. When self test is on, the Receive Data LED is normally OFF with no errors; and flashes on a data error.

TST (Test) Red LED lights when the Routermate 56/64 is in test mode.

NIS (Not In Service) Yellow LED lights when the unit is receiving an OOS (Out of Service) or OOF (Out of Frame) from the Telco; and also if no signal is detected.

Interfaces

[Figure 2-1](#) shows the rear panel connectors. [Figure 2-2](#) provides a cabling overview.

Appendix A provides interface pin descriptions and cable illustrations. Appendix B lists order numbers for cables.

Power Connector, Standalone Unit

The standalone Routermate includes a wall-mount transformer ([Figure 2-3](#)). See Appendix C, *Specifications*, for power requirements.

To avoid possible errors due to potential difference between grounds for the CSU/DSU and for the Data Terminal Equipment (DTE) the power receptacle for the Routermate and DTE should be served from the same AC distribution panel or dedicated outlet.

Note *Use only the wall-mount transformer included with the unit. See the multipurpose label on the underside of the unit for the part number.*

Network Interface

The interface labeled NI (Network Interface) is an 8-pin modular jack. It connects the Routermate to the DDS facility. The connection between the CSU/DSU and the network consists of four leads, divided into a Transmit (TX) and Receive (RX) pair.

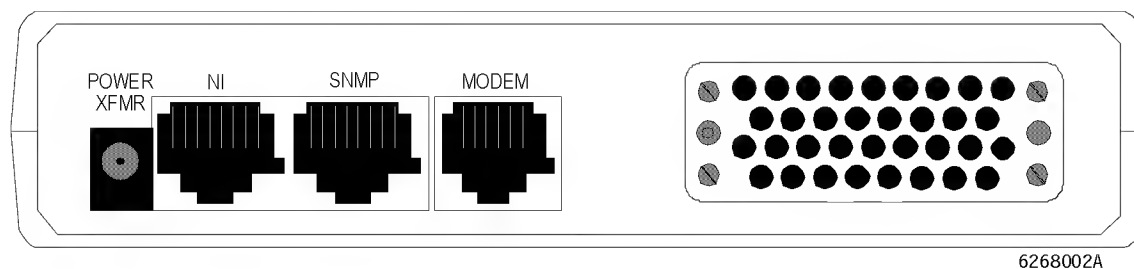
Use cable 115-0414-004, included with the unit, to connect the **NI** jack to the RJ48S telco jack.

Configure parameters for the network interface at the Configuration Menu (see [Configuration Menu](#) on [page 3-16](#)).

SNMP Interface

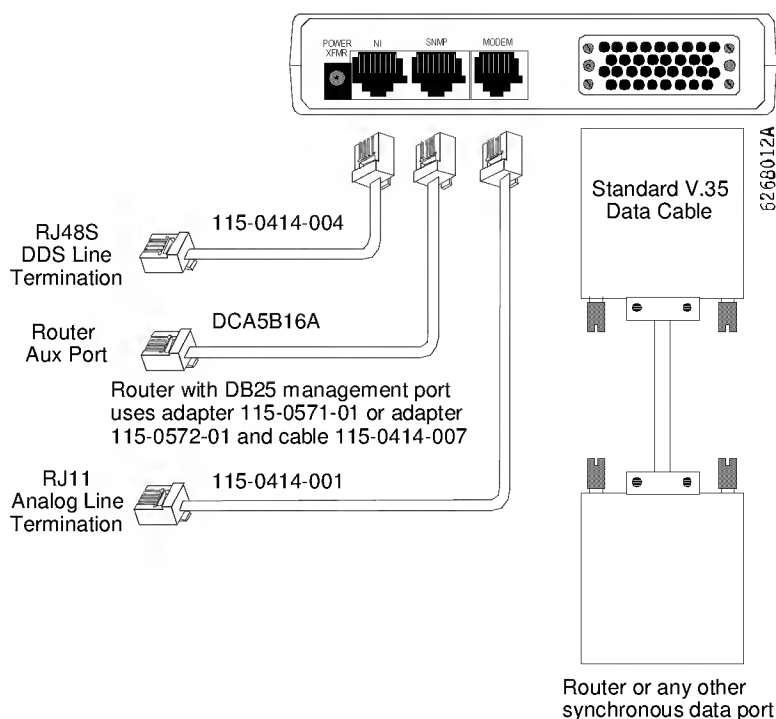
The **SNMP** interface is an 8-pin keyed modular jack. It provides a Serial Line Internet Protocol (SLIP) connection for SNMP management. It typically is used to connect to a router. A Telnet connection to the Routermate management screens also can be made via the SNMP interface. For installation and cabling see [SNMP/Telnet Management](#) on [page 2-8](#).

Figure 2-1 Rear Panel Cable Connectors



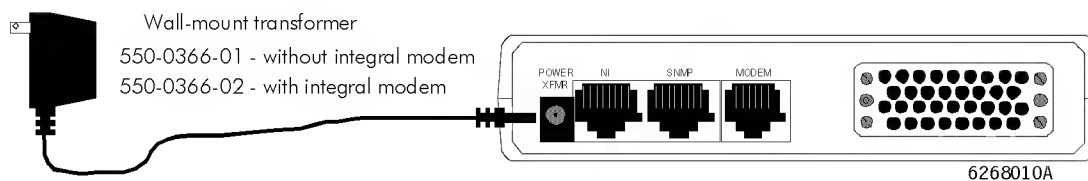
6268002A

Figure 2-2 Rear Panel Cable Connections



Router or any other
synchronous data port

Figure 2-3 Power Connection with Wall-Mount Transformer



6268010A

Modem Interface

The **MODEM** interface is a 6-pin modular jack. When the optional integral V.32 modem is present, this interface provides a connection to dial lines for secure remote dial-in access of the Routermate's management screens. Use cable 115-0414-001.

The following devices, when connected to the **CONSOLE** interface, can also be remotely managed via the modem interface:

- router, terminal server or other compatible device.
- Optional FPX4802/DES Frame Relay Encryptor connected in-line to the router or other device.

V.35 Interface

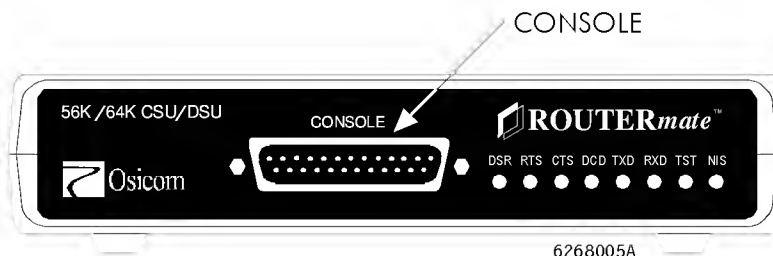
A 34-pin V.35 female connector. See [Configuration Menu](#) on [page 3-16](#) to configure V.35 interface parameters. This interface is connected to the DTE, which typically is a router.

Console Interface

The **CONSOLE** interface is a DB25 female connector that can be used for the following management methods:

- Terminal access of the Routermate management screens. See [Terminal Management](#) on [page 2-7](#).
- Dial-in management of a router or other compatible device connected to the **OUT 0** port on the console adapter.
- Dial-in management of an optional FPX4802/DES Frame Relay Encryptor or other ASCII device with a 3-wire interface connected to the **OUT 1** port on the console adapter. See [Figure 2-8](#) on [page 2-11](#) and [Connecting the AUX 0, Aux 1 Device](#) on [page 2-13](#).

Figure 2-4 *Console Interface*



Terminal Management

To access the Routermate's management screens:

1. Connect a PC (running a terminal emulation program) or serial terminal to the **CONSOLE** interface on the Routermate front panel. The console cable should be a straight-through cable with a DB25-male connector at the Routermate (DCE) end and a connector that matches the terminal interface at the terminal (DTE) end.
2. Turn on the terminal and set the terminal transmission options:
 - Rate: 9600 bps
 - Mode: full duplex
 - Character: 8 bits
 - Parity: none
 - Stop bits: 1
 - Flow control: DC1/DC3 (Xon/Xoff)

The Routermate's **CONSOLE** interface is fixed at 9600 bps, 8 character bits, 1 stop bit, and no parity.

3. The first screen displayed prompts for a password. For initial installation, press **[CR]**, the default password; the Main Menu is displayed.

See [Terminal Operation, Chapter 3](#), for a description of the management screens.

SNMP/Telnet Management

The Routermate's SNMP interface enables SNMP management and simultaneous traffic from a single Telnet connection.

SNMP/Telnet Installation

To use SNMP or Telnet to manage the Routermate:

1. Connect cabling.

The Routermate's SNMP interface is compatible with Cisco 2500 Series and compatible routers. Use a straight-through 8-pin to 8-pin modular cable (Osicom cable number DCA5B16A) to connect from the Routermate's **SNMP** interface to the SLIP interface of the router, terminal server, or other device that implements SLIP ([Figure 2-5](#)).

To connect to a router with a DB25 SLIP interface, use the cables and adapters shown in [Figure 2-6](#) and [Figure 2-7](#).

To connect to a router or other device with a SLIP interface configured as a modem (DCE), and also for a management connection to a router or other device with a management port configured as a modem (DCE), use adapter 115-0571-01 ([Figure 2-6](#)).

Use adapter 115-0572-01 (see [Figure 2-7](#)) if the SLIP or management connection is to an interface configured as a DTE.

2. Ensure that the SLIP port on the connected device is configured to match the configuration of the Routermate's SNMP interface, which is fixed at:
 - 9600 bps asynchronous
 - 8 data bits plus 1 stop bit
 - no parity
3. Using a terminal connected to the **CONSOLE** interface (see [Terminal Management](#) on [page 2-7](#)), configure SNMP and Telnet management parameters on the Management screen (see [Management Menu](#) on [page 3-29](#)).
 - For both Telnet and SNMP applications, assign an IP address to the Routermate by configuring the **Internet Address** and **Subnet Mask** parameters.
 - Before attempting a Telnet connection, set the **Access via telnet** parameter to *Enabled*.
 - Before SNMP management can be used, configure the **SNMP R/O Community**, and **SNMP R/W Community** strings to match the community strings used by the SNMP management station.

Figure 2-5 *SNMP Connection to Cisco 2500 and Compatible Routers*

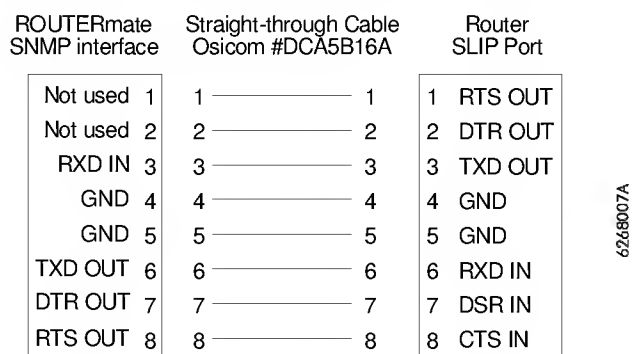


Figure 2-6 *SNMP Connection to Routers with DB25 Female SLIP Interface*

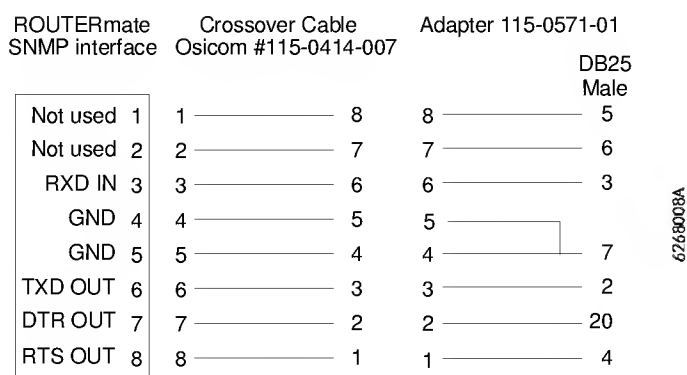
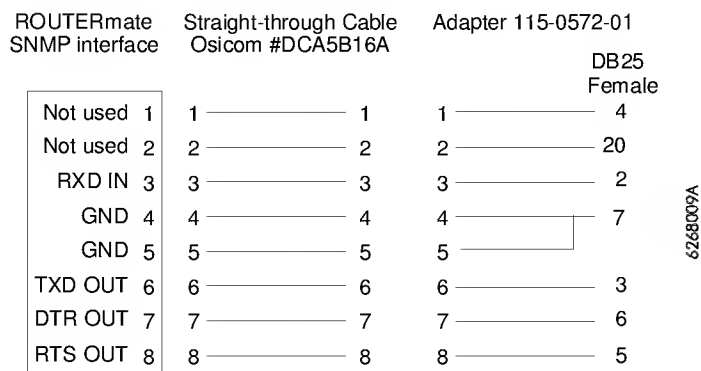


Figure 2-7 *SNMP Connection to Routers with DB25 Male SLIP Interface*



Obtaining the Enterprise MIB

For SNMP management, the enterprise MIB can be downloaded from Osicom's Web site at <http://www.osicom.com>

Telnet Operation

The SNMP interface also provides access to the Routermate's terminal management screens via a Telnet connection.

The Routermate allows one Telnet connection at a time; however, Telnet, SNMP, and dial-in management can be simultaneous.

A Telnet connection can be made from any device that uses the Telnet protocol and accesses the Routermate via the SNMP interface.

A Telnet connection also can be made by connecting the SNMP interface to an IP station.

Dial-In Management

The optional integral V.32 modem provides secure dial-in management of the following:

- Routermate management screens.
- An external device (usually a router) connected to the **OUT 0** port on the console adapter.
- Management screens for an optional FPX4802/DES Frame Relay Encryptor or other ASCII device with a 3-wire interface connected to the **OUT 1** port on the console adapter.

The Routermate's integral V.32 modem is answer-only. Dial-in management calls can be made from a remote modem when the primary link is up or down.

Hot keys can be used to switch between the managed devices (see [Hot Keys](#) on [page 3-8](#)).

A modem security code can be exchanged during the handshake sequence between the integral modem and the remote modem; if this feature is to be used, the remote modem must be an Osicom DCM4232 or DCM4532.

[Figure 2-8](#) shows dial-in management cable connections.

Installation for the various dial-in management applications is described in the following sections.

Connecting to the Routermate Management Screens

Before making a dial-in management call to the Routermate management screens:

1. Connect straight-through cable 115-0414-001 or equivalent from the **MODEM** interface to the DDD service RJ11 jack.
2. Ensure that the following parameters are set as required (the default settings can be used).

At the Unit screen (see [Unit Menu](#) on [page 3-19](#)):

Console Password (default: *[CR]*)

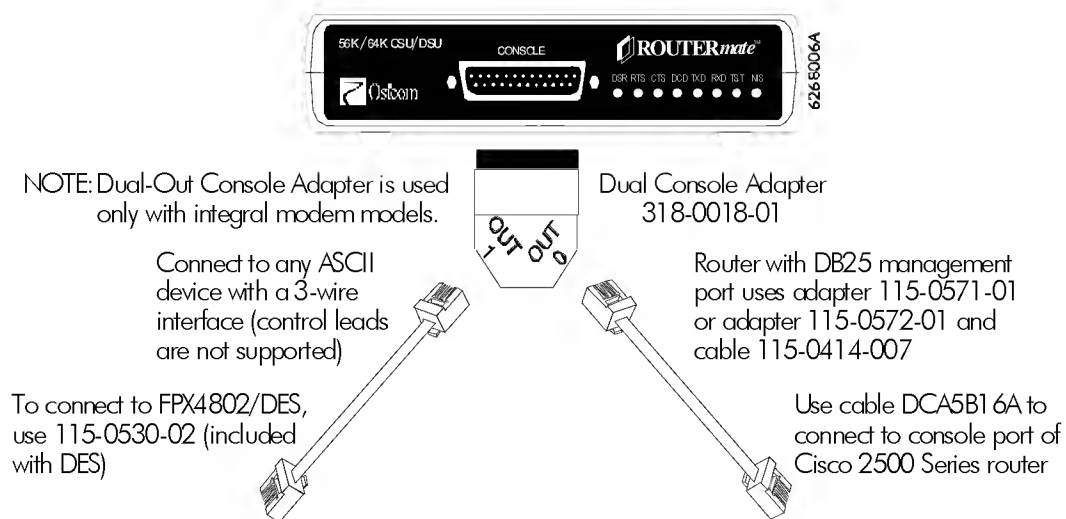
At the Dial-In Management Options screen (see [Dial-In Management Options](#) on [page 3-23](#)):

Auto Answer (default: *Enabled*)

Modem Security (default: *Disabled*)

Dial-In Password (default: *[CR]*)

Figure 2-8 *Dial-In Management Cable Connections*



3. Skip to Step 4 unless a modem security code is to be exchanged between the integral modem and a remote DCM4232 or DCM4532 modem during the modem handshake.

If the security code is to be used:

- a. At the Dial-In Management Options screen, configure the integral modem as follows:

- i. Set **Modem Security** to *Enabled*.
- ii. If desired, re-configure **Modem Security Code**.

This code must be the same for the integral modem and the remote DCM4232 or DCM4532 modem. The default code is the string *password* in both the integral modem and the DCM4232 or DCM4532.

- b. Configure the remote DCM4232 or DCM4532 used to originate the call:

- i. The DCM4232 and DCM4532 have both an active and a pending password. Set both passwords to match the integral modem's **Modem Security Code** (default is *password*).

Enter: AT"Zpassword
 AT"Ypassword

- ii. Set the DCM4232 or DCM4532 modem user ID to *usr* in order to connect to the Routermate with security.

Enter: AT"Wusr.

4. Place a call from the remote modem to the Routermate.

Note

If no Dial-In password has been configured, terminal selection and the Dial-in password prompt are bypassed.

If the remote modem is a DCM4232 or DCM4532, enter:

ATDT#####

After the handshake, the following prompt appears:

~~CONNECTE~~

After the modem handshake, the Routermate's Device Selection Menu displays:

0 - Aux Port 0: Device 0
1 - Aux Port 1: Device 1
2 - 56/64 CSU/DSU
L - Logoff

If a Dial-in password has been configured, and the **Terminal Type Select** option is set to *Enabled*, you are prompted to enter a terminal type and then enter the configured password before the Device Selection Menu is displayed (see [Dial-In Management Options](#) on page 3-23).

5. Select **2 - 56/64 CSU/DSU**.
You are prompted to enter a password.
6. If no Console Password has been configured, press **[CR]** at the password prompt.
If a password has been configured, enter the **Console Password** (see [Unit Menu](#) on [page 3-19](#)).

After the password is successfully entered, the Routermate's Main Menu is displayed.

A dial-in management call locks out a local terminal connected to the Routermate's **CONSOLE** interface. The local terminal displays the message shown here:

Local Terminal Locked

Management Call

In Progress

Please wait until call disconnects.....

Select **Logoff** at the Device Selection Menu to disconnect the management call.

Connecting the AUX 0, Aux 1 Device

The asynchronous management port of a router or other compatible device can be connected to the Routermate's **CONSOLE** interface. The connected device can then be managed from a remote terminal that dials in over the **MODEM** interface.

1. Connect cabling from the Routermate's **CONSOLE** interface to the device's management port.

The cabling used depends on the interface provided by the connected device.

[Figure 2-9](#) shows the cable and adapter required to connect the Routermate **CONSOLE** interface to a Cisco 2500 Series router or compatible device.

Figure 2-9 *Dial-In Management Connection to Cisco 2500 and Compatible Routers*

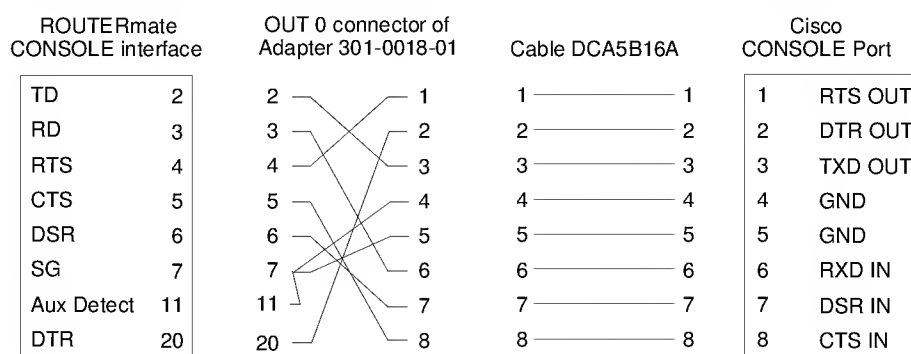


Figure 2-10 and Figure 2-11 show the cabling and adapters for connecting to a device whose management interface provides a DB25 connector.

Note in the figures that **OUT 0** on the adapter connects pin 11 of the Routermate **CONSOLE** interface to pin 7 (ground). When the adapter is installed, this signals to the unit that an auxiliary device is connected instead of a terminal.

2. Ensure that the management port on the connected device is configured to match the configuration of the Routermate's **CONSOLE** interface, which is fixed at:
 - 9600 bps asynchronous
 - 8 data bits plus 1 stop bit
 - no parity
3. If an FPX4802/DES Frame Relay Encryptor is being connected in-line between the Routermate 56/64 and the managed Device 0, connect cable 115-0530-xx (Figure 2-12) from the adapter connector labeled **OUT 1** to the FPX4802/DES's **RING L/CONSOLE** interface (this is the terminal cable shipped with the FPX4802/DES). Configure the FPX4802/DES as described in the FPX4802/DES manual.

Connect a standard V.35 cable from the Routermate **V.35** interface to the FPX4802/DES **ENCRYPTED SYNC 2** interface. Connect a second standard V.35 cable from the FPX4802/DES **CLEAR SYNC 1** interface to the router's V.35 interface.

4. Place a call to the integral modem, as described in Step 4 on page 2-12.
5. Select, as appropriate, one of the following at the Routermate's Device Selection Menu:

0 - AUX Port 0: Device 0 - router or other device connected to the **OUT 0** port on the console adapter.

1 - AUX Port 1: Device 1 - device connected to the **OUT 1** port on the console adapter.

Figure 2-10 *Dial-In Management Connection to Routers with DB25 Female Management Port*

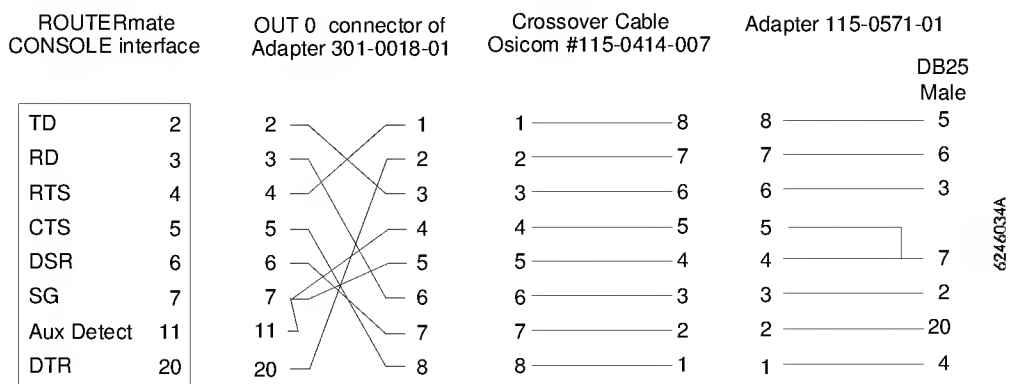


Figure 2-11 *Dial-In Management Connection to Routers with DB25 Male Management Port*

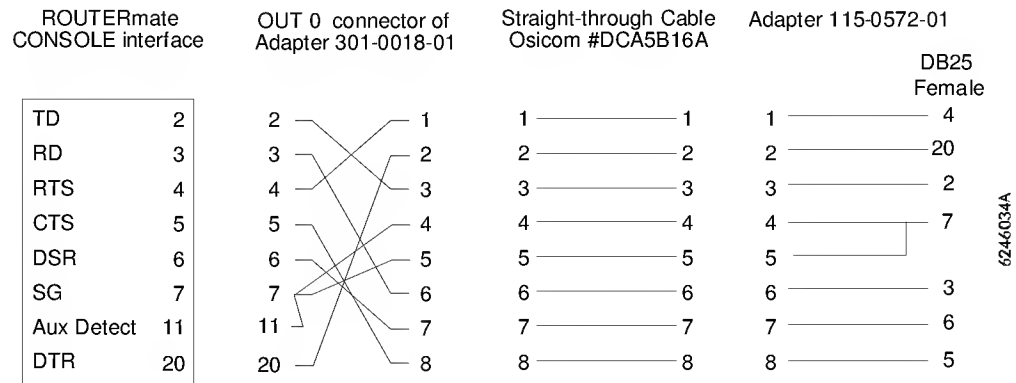
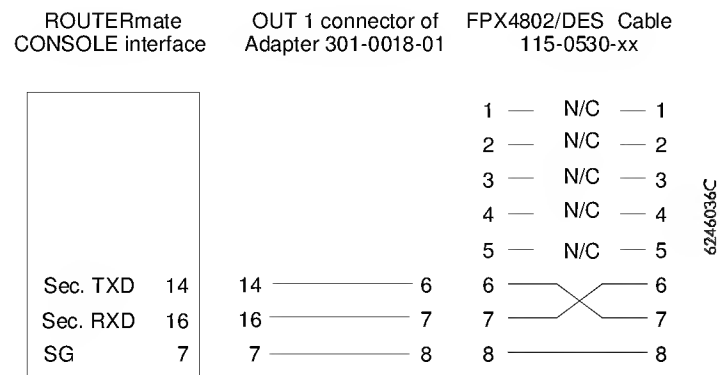


Figure 2-12 *Cable Connections to FPX4802/DES Frame Relay Encryptor*



Installation

Dial-In Management
